

## PDF hosted at the Radboud Repository of the Radboud University Nijmegen

The following full text is a publisher's version.

For additional information about this publication click this link.

<http://hdl.handle.net/2066/56598>

Please be advised that this information was generated on 2018-07-08 and may be subject to change.

# Commentary and Debate Special Section

## Introduction: Defining media diversity

LEEN D'HAENENS

*Against the background of the current European competitive media landscape, the media are more and more compelled to legitimize their activities in their own national context as well as at a European level. Meanwhile, the nature of the media diversity in The Netherlands has changed tremendously; from a society divided along political and religious lines, it has evolved towards a multi-ethnic society. Hence, both the conceptualizing and operationalizing of media diversity from an academic as well as a media practical perspective prove to be hot topics.*

*An expert meeting was held at the Department of Communication at Radboud University Nijmegen in December 2004 in which the contours of media diversity in general and in The Netherlands in particular were explored. Institutional performance as well as program-related aspects linked to the notion of media diversity were discussed. Media diversity was explored from the angle of media economics (How many media actors are there? What about the competition? Is competition deadly or just healthy or somewhere in between?) as well as from the perspective of the program format level (Is it more of the same? A lot of imports? What about criteria for quality, innovation? Does the public broadcaster make any difference?). In addition, the audience reception perspective (Are these media production and distribution trends followed by media use patterns?) as well as methodologically problematic aspects one encounters when measuring media diversity were assessed. What follows here is a selection of several most pertinent views on this complex topic. We welcome each critical insight from other geographical contexts which might stimulate the debate on measures of open and reflective diversity in the media.*

## Media markets and media diversity

RICHARD VAN DER WURFF

Media markets have been increasingly subjected to market forces, in the expectation that markets force media organizations to respond effec-

tively and efficiently to audience demands and thereby serve the common good. This approach has been criticized on two accounts. One is that a media supply that matches audience demands does not necessarily meet (other) societal standards for media performance. The other criticism is that unregulated media markets – for media-economic reasons – will not produce a media supply that properly meets audience demands (Brown, 1996).

This paper emphasizes three considerations that might seem obvious but nevertheless tend to be forgotten in the heat of the debate. First, market forces, like governmental policy, are subject to the law of diminishing returns, i.e., some competition might be beneficial, but strong competition may have effects that are as detrimental as those of a monopoly. Second, the impact of market forces depends considerably on other market structural conditions – including cost structures and audience demands – that vary from media market to market. Third, outcomes of media competition additionally depend on the type of organizations that compete in media markets.

### *Diversity*

The paper focuses on the impact of market forces on diversity. Diversity refers to heterogeneity of media content according to one or more criteria (McQuail and Van Cuilenburg, 1983). Media content provided by a market can be diverse because outlets themselves are internally diverse, or because outlets provide different types of content that, combined, create a diverse supply. Diversity within outlets is important because it ensures that audiences are confronted with diverse and thought-provoking information; differentiation of outlets is also important because it guarantees that audiences are able to choose between different products. Unfortunately, diversity within outlets and differentiation of outlets do not easily go together.

### **Competition and diversity in broadcasting**

The best starting point to analyze the relationships between media competition and diversity is program choice theory, an approach that models programming decisions of broadcasters under varying market conditions (see the excellent overview in Owen and Wildman, 1992). A common assumption in program choice theory is that broadcasters on advertiser-supported broadcasting markets aim for the largest possible audience. Another assumption is that viewers distribute themselves relatively equally across channels that provide the same programs.

### *Competition*

Simple program choice models limit the analysis to a single broadcasting period. If one assumes that viewer preferences are normally distributed, these models basically show that single-channel broadcasters prefer to provide (slightly different variants of) the same mainstream program, until the main audience is divided across so many channels that serving a niche audience with a minority program becomes more attractive (Beebe, 1977; Steiner, 1952). Accordingly, competition between (an increasing number of) channels will first result in program duplication, and later on in (some) diversity. Program supply meets audience demands – there are many variants of the most popular program and few variants of minority programs – but resources are wasted, too. Empirical illustrations are found in the cable and radio industries in the US (De Jong and Bates, 1991; Rogers and Woodbury, 1996).

Television markets are more realistically described in multi-period program choice models. These models follow the same logic as single-period models, but take into account that channels broadcast several programs consecutively. These models propose that broadcasters replicate mainstream programs not only across channels but also in time, until it becomes more attractive to once more add minority programs (Steiner, 1952). Consequently, channels offer a mix of similar mainstream programs and different minority programs (Noam, 1987). When under those conditions channel numbers increase, broadcasters add more minority programs and increasingly target niche audiences. These differentiation strategies cause channels to become less diverse and more distinctive.

Unfortunately, changes in channel numbers not only contribute to channel differentiation and increases in market diversity, but also reduce audience numbers and advertising revenues per channel. When this decline becomes sufficiently large, broadcasters are forced to cut costs by reducing the number of expensive programs, focusing on cheaper programs (e. g., game and talk shows, foreign programs) and re-running programs more frequently (Picard, 2001). This makes programming on different channels more similar and less diverse.

Combined, these arguments indicate that some competition on television markets contributes to diversity, whereas more intense competition may reduce diversity. This conclusion is illustrated by developments in The Netherlands in the 1990s, where an increase in competition first resulted in an increase and subsequently in a decline in program type diversity, primarily because in the second half of the 1990s new channels entered the market that attempted to acquire a market share by focusing on relatively popular but cheap programs (foreign programs, light information, reality shows) (Doyle, 2002; Van der Wurff, 2004).

*Concentration*

Competition refers to the presence of multiple channels that each aim to attract the largest possible audience. Concentration of channel ownership rather creates strategic opportunities for multi-channel broadcasters to maximize audiences by fine-tuning programs on different channels. Single-period models remind us that multi-channel broadcasters have no incentive to duplicate programs on their own channels. Instead, they provide different programs for mainstream and minority audiences to maximize aggregate audiences across channels (Steiner, 1952). This audience maximization incentive essentially explains why concentration can increase diversity. The only exception is monopoly. In theory, a monopolist might prefer to provide one single lowest common denominator program and leave all other channels unused, in the expectation that all viewers view the only available program (Beebe, 1977).

Strategic considerations, on the other hand, induce multi-channel broadcasters to position their channels relatively close to each other in the 'center' of the market and serve majority tastes. That way, they can prevent that new channels enter 'in between' existing channels, and use 'competitive' channels to protect 'core' channels (Giraud-Héraud, Ham-moudi, and Mokrane, 2002; Lancaster, 1990). These strategic objectives and the audience maximization incentive together "may lead jointly owned products in radio broadcasting to be 'differentiated, but not by too much'" (Berry and Waldfogel, 2001: 1012).

*Types of broadcasters*

The outcome of competition furthermore depends on the characteristics of players in a market (Baker, 2001). Company characteristics are especially important in broadcasting, because public broadcasters aim to provide audiences with a different combination of programs than would be offered by profit maximizing broadcasters only (Brown, 1996). Indeed, public channels offer more diverse combinations of programs than commercial channels, with a bias towards high-quality, elitist programming (e. g., Hellman and Sauri, 1994). The logic of program choice models, however, dictates that an increase in (public) supply of minority programs makes it less attractive for competing (commercial) channels to provide similar minority programs. Hence, public provision of minority programs crowds out commercial provision of at least some minority programs (Berry and Waldfogel, 1999). Ongoing research suggests that the net contribution of public broadcasting to diversity is positive, but the latter does not necessarily increase with the number of public channels (O'Hagan and Michael, 2003; Van der Wurff, in press).

## **Trade magazines**

Trade magazines differ from television channels in two important media-economic aspects. One important difference is that trade magazines earn both advertising and subscription revenues. The reliance on subscription revenues makes it less attractive for trade magazine publishers than for broadcasters to replicate products of competitors (Owen and Wildman, 1992; Tirole, 1988). For publishers, replication not only results in lower audiences per magazine, but also elicits competition on subscription prices that reduces revenues more. Another important difference is that trade magazines offer need-to-know information. Consequently, tradesmen and professionals subscribe to several titles, and new titles generate additional demand (Gasson, 1996; Van den Brink, 1987). These two differences together explain why trade magazine publishers have relatively strong incentives to differentiate their magazines.

Differentiation contributes to a strong segmentation of markets in which large-circulation generalist and small-circulation specialty magazines serve overlapping audiences. Large-circulation magazines provide diverse contents on a wide range of topics at low subscription prices to attract large audiences and earn considerable advertising revenues. Small-circulation magazines, in contrast, earn lower advertising revenue, but at the same time face higher average costs. They therefore need to charge relatively high subscription prices and, in return, provide focused, high-quality content. Consequently, readers can choose between a wide variety of diverse and focused magazines at lower or higher subscription prices; and the extent of specialization and ultimately diversity depends on the willingness of audiences to pay higher subscription prices for more specialized magazines (Van der Wurff, 2005).

Moreover, concentration contributes to the differentiation of trade magazines. Multi-title publishers have the same strategic incentives and even more opportunities than multi-channel broadcasters to introduce new product variants. It enables them to target new customers, to deter entry of new competitors (Brander and Eaton, 1984), to reduce the market shares of competitors, and to protect their own core products from price competition. Concentration stimulates product variety even more on trade magazine markets, because large publishers can realize significant economies of scale (Bailey and Friedlaender, 1982), and introduce new titles relatively easily (e. g., by introducing them as specialized supplements to their main titles; Gasson, 1996). Examples are the major agricultural magazines in The Netherlands that have many different supplements for different subgroups of farmers. The familiar downside is that concentration increases prices, especially because large publishers sell portfolios of titles across market segments to customers (McCabe, 2002; 2004; Van der Wurff, 2005).

Large and small commercial publishers compete on trade magazine markets with various types of non-commercial players. These include trade associations, i.e., membership organizations that publish magazines to inform their members; public information providers: not-for-profit research, advisory or governmental organizations that give advice and policy information; and attention seekers, i.e., companies that trade with an industry or profession and that publish magazines to maintain customer relations (Kuiper and Van Woerkum, 1991; Van der Wurff, 2002). These non-commercial publishers charge lower prices and provide more distinctive magazines than their commercial competitors. What is not yet clear is how commercial publishers respond to their non-commercial publishers, and what the overall impact of these strategic interactions is on market performance (Van der Wurff, 2005).

### Newspapers

Newspapers also have other economic characteristics. Like trade magazines, newspapers earn both subscription and advertising revenues. Hence, newspaper publishers have similar incentives to differentiate their products and prevent competition on subscription prices as trade magazine publishers. Unlike trade magazines, however, and more like television channels, customers generally read only one newspaper. This reduces opportunities for newspaper publishers to introduce additional specialty titles. Furthermore, differentiation strategies are complicated because newspapers (and readers) want to report (and read) about what they together perceive as the most relevant news. Competition in newspaper markets therefore is primarily competition between generalist newspapers that emphasize differences in quality, layout, geographical orientation, or normative perspective rather than news as such (Lacy and Martin, 2004).

Newspapers that draw large audiences earn relatively high subscription revenues and realize considerable economies of scale (Doyle, 2002). Newspaper publishers therefore have strong incentives to maximize audiences. Strategic incentives to introduce new, complementary, or specialist titles, on the other hand, are absent, also because there is a limited threat of new entry. Whereas the combination of audience maximization and strategic incentives explains why concentration in broadcasting and trade magazines contributes to differentiation strategies and diversity, the predominance of the audience maximization incentive in newspaper markets suggests that concentration primarily results in the merging of titles.

The role of public or non-commercial players in newspaper markets, thirdly, is limited. Relatively recently, we witnessed the entry of providers

of free news, either in print or online. These players rely on advertising revenues. In the long run, newspaper publishers can only respond to this competitive threat by emphasizing the quality of their news product – which arguably means that future newspapers will be more specialized products at higher subscription prices for smaller audience segments (Picard, 1999). Given these economic characteristics, it is not surprising that diversity in newspaper markets is more threatened than in television and trade magazine markets. At the same time, it is not obvious how competition can increase diversity under these conditions.

## Conclusions

The comparison of different media markets underlines three conclusions. One is that both too little and too much competition or concentration can reduce diversity. Secondly, the extent to which competition or concentration stimulate media product differentiation and diversity depends on cost and demand conditions, including the balance between subscription and advertising revenues, and opportunities to realize economies of scale or scope. Optimal levels of competition or concentration therefore vary from media market to market and cannot be determined once and for all. Thirdly, market forces primarily increase diversity by stimulating media organizations to offer more differentiated products (sometimes in combination with more similar products). This increases viewer choice, but at the same time makes it less likely that viewers are confronted with ‘surprising’, ‘eye-opening’ or ‘thought-provoking’ information. Non-commercial or public media organizations are important providers of media products that serve this latter aim.

For media policy, this implies that on the one hand competition cannot be unequivocally relied upon to increase diversity, and that on the other hand, it does not by definition threaten diversity. Instead, a mix of media policy instruments is needed to improve media diversity, and this mix needs to be specifically geared towards the specifics of the media market. This raises questions whether broadcasting and print policies can converge into one overarching cross-media policy.

## References

- Bailey, E. E. and Friedlaender, A. F. (1982). Market structure and multiproduct industries. *Journal of Economic Literature*, 20(3), 1024–1048.
- Baker, L. C. (2001). Measuring competition in health care markets. *Health Services Research*, 36(1), 223–251.
- Beebe, J. H. (1977). Institutional structure and program choices in television markets. *The Quarterly Journal of Economics*, 91(1), 15–37.



- Berry, S. T. and Waldfogel, J. (1999). Public radio in the United States: Does it correct market failure or cannibalize commercial stations? *Journal of Public Economics*, 71(2), 189–211.
- Berry, S. T. and Waldfogel, J. (2001). Do mergers increase product variety? Evidence from radio broadcasting. *The Quarterly Journal of Economics*, 116(3), 1009–1025.
- Brander, J. A. and Eaton, J. (1984). Product line rivalry. *American Economic Review*, 74(3), 323–334.
- Brown, A. (1996). Economics, public service broadcasting, and social values. *Journal of Media Economics*, 9(1), 3–15.
- De Jong, A. S. and Bates, B. J. (1991). Channel diversity in cable-television. *Journal of Broadcasting and Electronic Media*, 35(2), 159–166.
- Doyle, G. (2002). *Understanding media economics*. London: Sage.
- Gasson, C. (1996). *Media equities. Evaluation and trading*. Cambridge: Woodhead.
- Giraud-Héraud, E., Hammoudi, H., and Mokrane, M. (2002). Multiproduct firm behaviour in a differentiated market. *Canadian Journal of Economics*, 36(1), 41–61.
- Hellman, H. and Sauri, T. (1994). Public service television and the tendency towards convergence. Trends in prime-time program structure in Finland, 1970–92. *Media Culture and Society*, 16(1), 47–69.
- Kuiper, D. and Van Woerkum, C. M. J. (1991). *De betekenis van vakbladen voor veranderingsprocessen in de land- en tuinbouw. Een literatuuroverzicht* [The significance of trade magazines for innovation in agri- and horticulture]. Wageningen: Wageningen University.
- Lacy, S. and Martin, H. J. (2004). Competition, circulation and advertising. *Newspaper Research Journal*, 25(1), 18–39.
- Lancaster, K. (1990). The economics of product variety: A survey. *Marketing Science*, 9(3), 189–206.
- McCabe, M. J. (2002). Journal pricing and mergers: A portfolio approach. *American Economic Review*, 92(1), 259–269.
- McCabe, M. J. (2004). Law serials pricing and mergers: A portfolio approach. *Contributions to Economic Analysis and Policy*, 3(1), 1–29.
- McQuail, D. and Van Cuilenburg, J. (1983). Diversity as a media policy goal. *Gazette*, 31(3), 145–162.
- Noam, E. M. (1987). A public and private-choice model of broadcasting. *Public Choice*, 55(1–2), 163–187.
- O'Hagan, J. and Michael, J. (2003). Public broadcasting in Europe: Rationale, licence fee and other issues. *Journal of Cultural Economics*, 27, 31–56.
- Owen, B. M. and Wildman, S. S. (1992). *Video economics*. Cambridge, MA: Harvard University Press.
- Picard, R. G. (1999). Implications of the changing business model of the newspaper industry. *International Newspaper Financial Executives Quarterly Journal*, 5(3), 2–5.
- Picard, R. G. (2001). *Expansion and Limits in EU Television Markets: Audience, Advertising and Competition Issues* (Discussion Paper; C2/2001). Turku: Turku School of Economics and Business Administration, Business Research and Development Centre.
- Rogers, R. P. and Woodbury, J. R. (1996). Market structure, program diversity, and radio audience size. *Contemporary Economic Policy*, 14(1), 81–91.
- Steiner, P. O. (1952). Program patterns and preferences, and the workability of competition in radio broadcasting. *The Quarterly Journal of Economics*, 66(2), 194–223.
- Tirole, J. (1988). *The theory of industrial organization*. Cambridge, MA: MIT Press.
- Van den Brink, R. E. M. (1987). *Informatie over informatie* [Information on information]. Leiden: Stenfert Kroese.

- Van der Wurff, R. (2002). The impact of electronic publishing on the performance of professional information markets in The Netherlands. *New Media and Society*, 4(3), 307–328.
- Van der Wurff, R. (in press). Competition, concentration and diversity on European television markets. *Journal of Cultural Economics*.
- Van der Wurff, R. (2004). Supplying and viewing diversity: The role of competition and viewer choice in Dutch broadcasting. *European Journal of Communication*, 19(2), 215–237.
- Van der Wurff, R. (2005). Business magazine market performance. Magazines for the agricultural, business services and transportation sectors in The Netherlands. *Journal of Media Economics*, 18(2), 143–159.

## On monitoring media diversity, media profusion, and media performance: Some regulator's notes

JAN VAN CUILENBURG

### Defining 'media diversity'

Media policy and regulation entail a form of government intervention in media markets. Market failure is the classical and principally sole rationale for regulatory intervention in media markets. It is widely accepted within the European Union that media markets fail if they do not produce freedom of communication, media access, and media diversity. These three dimensions of media performance have been and still are the three cornerstones of Western media policy (cf. Van Cuilenburg and McQuail, 2003). This article deals with media diversity.

Media diversity refers to heterogeneity of the media. We can deconstruct the diversity concept into the concepts of source diversity and content diversity (cf. Napoli, 1999: 10). Source diversity refers to diversity in terms of media ownership and workforce. This dimension relates to media concentration and can be labeled as media plurality. Media policy often focuses on enhancing source diversity in order to promote the second main dimension of media diversity, content diversity. Media content can be diverse in different ways, for instance in terms of program type, format, genre, or demographics of programs<sup>1</sup>. The most common criteria to assess media content diversity are coined in terms of reflective diversity, that is, in terms of the actual match between media users' characteristics and preferences on the one hand, and the reflection of those characteristics and preferences in media content on the other. Reflective diversity is the extent to which existing population characteristics and preferences are proportionally represented in the media. Reflective diversity may be seen as equal access for people; i.e., if each individual or

group has equal access to the media to express his or her preferences or to contribute to media content, one can consider media to be reflectively diverse. The second way to assess content diversity is open diversity. Open diversity is the extent to which divergent preferences, perspectives, opinions, and ideas in society are in absolute terms equally (i. e., statistically uniformly) represented in media content. Open diversity thus may be labeled as equal access to ideas.

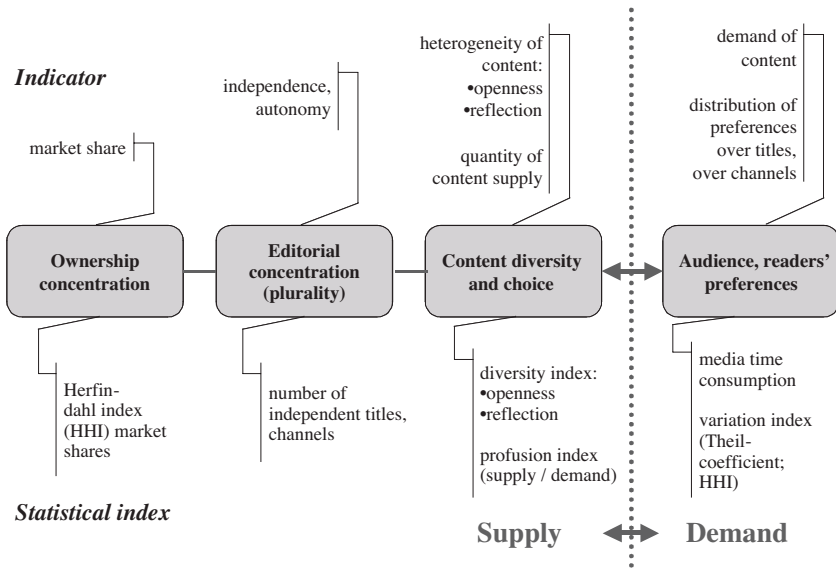
### **Monitoring media concentration**

Media markets have an inherent tendency toward concentration. Concentration of media ownership always constitutes a potential threat to democracy, urging careful monitoring and regulation by some authority in society, however latent the risk of media concentration may be to democracy. To monitor media concentration, media regulators within the EU follow very different approaches. By way of example, I will sketch the way the Dutch Media Authority monitors media concentration. The Media Authority has developed a Media Monitor that takes both sides of media markets into account. On the supply side, ownership concentration, editorial concentration (or to put it the other way around: editorial plurality), and content diversity are measured; on the demand side the monitor assesses audience preferences. This design not only allows for an analysis of the effects of ownership concentration on editorial plurality (that is, channel and title plurality) and media content diversity, but also for a comparison of media supply and demand, thus enabling the evaluation of the degree of reflective diversity and openness (Dutch Media Authority, 2002).

The Dutch television market is highly concentrated as is indicated by the Herfindahl-Hirschman Index which reads  $HHI = .26$ , or in number equivalents  $HHI\ NE = 3.8$ . Three main players, the Dutch public broadcaster and two commercial broadcasters (RTL and SBS), dominate the market with a joint market share of 85% (Dutch Media Authority, 2003: 45). In spite of the high degree of ownership concentration there is a large extent of plurality in the television market. The number of major channels targeting the Dutch audience has grown from four stations in 1990 to 18 in 2002 (Dutch Media Authority, 2003: 43).

#### *Example: The Dutch Media Monitor*

The Dutch Media Authority measures diversity of television programming on the basis of a content classification system, which categorizes all program output into categories such as news and information, education, drama, entertainment, sports, and youth programs. Program time



output is subsequently compared to audience preferences, i.e., the relative time people spend viewing these program categories. Using these data it is possible to calculate both reflective and open diversity on television (Dutch Media Authority, 2002: 25–30). Reflective diversity for the total television supply is  $RD = .94$  ( $RD = 1$  is the maximum, and indicates that the supply fully reflects audience preferences). This score proves that program supply follows audience preferences almost perfectly. The reflective diversity index for the public broadcaster was  $RD = .77$ , while the index for the commercial broadcasters was  $RD = .88$ . Performance in terms of open diversity, however, results in a slightly different picture. The public broadcaster provides access to a greater variety of program categories and genres than commercial broadcasters do (open diversity OD in 2002: .55 (all channels); .67 (public channels); .47 (commercial channels)).

### Media profusion (abundance) and media performance

There is one dimension of media performance that hardly receives any policy attention from media legislators and regulators, and yet deserves it fully, namely media abundance. Present-day media markets provide audiences with an overwhelming quantity of media products. It makes sense to include the sheer growth in media supply into monitoring media diversity. Growth in media supply in itself enhances the possibility for

media consumers to choose from a variety of products. In adding choice to the Media Monitor model, it is possible to develop a kind of supply / demand index next to diversity indices for reflection and openness. Such an index can be labeled as the profusion index, with the term referring to rich or lavish supply, abundance (Oxford English Dictionary, Webster's New World Dictionary)<sup>2</sup>.

Profusion as an abundance index can easily be inferred from the degree of excess of media supply relative to media consumption in society. Media profusion can be defined as the extent to which the supply of media content exceeds the audience's actual demand and consumption of media content.

$$\text{Profusion} = Q_S / Q_D$$

$$0 \leq \text{Profusion}$$

where  $Q_S$  quantity of media content supplied in a media market

$Q_D$  quantity of media content consumed in a media market

From audience data (Dutch Media Authority, 2003: 54–5), it is possible to infer that the Dutch television market has a very high degree of television content profusion; i. e., the nine general interest channels produce a program output that exceeds television consumption with factor Profusion = 23.2. During the 682 hours that the Dutch audience spends watching television in the course of a full year (prime time, 18–24 hours) they can select from a program supply (prime time) of 15,813 hours. On commercial channels, supply profusion is highest for fictional programs (Profusion = 22.1), on public channels for music (Profusion = 32.5) and children's and youth programs (Profusion = 24.4).

If media profusion is related to diversity, one can consider the performance of a media system to increase if both diversity and profusion of media products increases. Hence, we may define media performance as:

$$\text{Media} \quad = \text{Quantity of Content Supply} * \text{Quality of Content Supply}$$

$$\text{Performance} = \text{Profusion} * \text{Diversity}$$

According to this formula definition, media performance is lowest in case of homogeneous media supply lagging behind media demand. On the contrary, media performance is highest when the media supply is heterogeneous and far exceeding media demand.

The abundance of television program supply in The Netherlands is complemented by a high degree of content reflection and openness, as mentioned earlier. Taken together, the high profusion and high diversity in television programming result in a very high degree of performance

in the Dutch television market. Performance per channel is distinctly better for the public broadcaster than for its commercial competitors; i. e., the average media performance per channel in 2002 amounts to 1.9; for the public broadcaster the average media performance is 2.2, while the commercial broadcasters' media performance amounts to 1.5.

Here one arrives at an interesting policy conclusion. In contradiction to conventional theory, the empirical reality of the Dutch television market clearly shows that there is no linear negative relationship between media ownership concentration and media diversity. On the contrary, the highly concentrated Dutch television market produces a high degree of both media profusion and media diversity, overall resulting in a well-performing media market.

### **Dominant opinion power**

Monitoring media concentration and diversity only makes sense if it has its follow-up in media regulation. There are two regulatory issues that are currently pivotal to the national and European policy debate on media diversity: first, whether media diversity should be mainly regulated within the framework of general competition policy or by media-specific regulation, and second, how the concept of 'relevant media market' should be defined.

Central to the European approach of general competition law is the concept of 'dominant market position', which in the new EU telecommunications Framework Directive of 2002 has been labeled as 'significant market power'. According to the Framework Directive, "An undertaking shall be deemed to have significant market power if, either individually or jointly with others, it enjoys a position equivalent to dominance, that is to say a position of economic strength affording it the power to behave to an appreciable extent independently of competitors, customers and ultimately consumers" (Framework Directive 2002, paragraph 14.2). General competition regulation should aim to prevent the rise of significant market power. Although market shares are not sufficiently conclusive on their own to establish the existence of a dominant position, they are very important indicators. According to European case law, a market share of over 50 % would lead to a presumption of dominance. Suppliers with market shares below 25 % are not likely to enjoy single dominance. In the European Commission's decision-making practice, single dominance concerns normally arise where an undertaking has at least a 40 % market share (Of tel, 2002: 7).

Although general competition law may be a strong instrument to counter media concentration, it is far from sufficient. Several objections have to be made here. The main objection is that the 50 % threshold for

significant market power is far too high to start talking about 'dominant power of opinion'. In a healthy marketplace of ideas, the media provision of two diverging streams of ideas and opinions can only be regarded as the very minimum to prevent predominant opinion power. Ideally, the number of independent broadcasters with equal opinion market share should be beyond three or more. As can be calculated, the marginal increase in media diversity is relatively large going from two to three, four, or five independent broadcasters; going beyond five independent broadcasters only marginally adds to the diversity of opinion. For media concentration regulation, this goes with ideal audience market shares between 33 % and 20 %, far below the general competition 50 % threshold of economic market dominance. This consideration constitutes the most important argument for media-specific concentration regulation.

### **The concept of 'relevant media opinion market'**

There is one other major objection to general competition law as an instrument for regulating concentration in the media industry (cf. European Audiovisual Observatory, 2002: 5, 6). In competition law a dominant market position is diagnosed in an established 'relevant market', that is, a relevant economic market. According to conventional competition policy, the media industry operates in different relevant markets for newspapers, magazines, radio, free-to-air television, and pay-TV. However, one can wonder whether the economically defined relevant media markets coincide with the marketplace of ideas relevant to democracy. From a democratic point of view, if one wants to prevent predominant opinion power in society, media-specific concentration regulation should by far be preferred over general competition law.

Media-specific concentration regulation can define the concept of 'relevant market' in a way that is more relevant to assessing media opinion power. In analyzing media diversity it is normal to focus on media markets separately, i.e., assessing diversity separately for the newspaper market, the television market, the radio market, and so on. However, this approach to diversity assessment will not make sense in the future<sup>3</sup>. Convergence of communications and media technologies and the rise of the Internet shed a totally different light on the traditional maxim that diversity should be assessed in separate media markets.

Media diversity is promoted because of its democratic value. This being said once again, the issue of the relevant market has to be settled by the following question: What currently constitutes the relevant marketplace of ideas and opinions in our democracy? Does the media source upon which citizens shape their opinion matter for democracy? From

the perspective of opinion formation, media content products are becoming more and more substitutable to audiences.

What consequences this tendency will have for media policy cannot be precisely predicted yet. It seems reasonable, however, to expect that in the near future media policy has to search for media-neutral definitions of media diversity that allow assessing diversity in a multi-media environment. By media-neutral definitions I mean defining the relevant diversity marketplace not in terms of media types (press, broadcasting, Internet), but in terms of media content genres and formats, irrespective of the type of distribution technology used. So, perhaps in the not too distant future, media policy-makers and regulators will use genre and format definitions of media content, be it press, Internet or broadcasting. In other words, they will be talking about the diversity of the news market, the entertainment market, the financial news market, or the documentary market. For each of these markets normative limits to opinion market shares should be set to prevent predominant media opinion power. These limits could be set on 10% for multimedia concentration, as the EU commissioner Mario Monti originally proposed in 1995 (cf. Sánchez-Tabernero and Carvajal, 2002: 127; European Audiovisual Observatory, 2001: 64, 65).

## Notes

1. The third dimension of media diversity is exposure diversity, that is, diversity in terms of audience reach. Exposure diversity relates to a distinction also made by Denis McQuail (1992: 157) between content as sent and content as received; these are two different things.
2. For more information about the concept of media profusion, see van Cuilenburg (2005).
3. Markets may be defined in terms of products and geography. In the European Union, a relevant product market is defined as follows: "A relevant product market comprises of all those products and/or services which are regarded as interchangeable or substitutable by the consumer, by reasons of the products' characteristics, their prices and their intended use" (CEC Commission of the European Communities, 1997). Demand substitution constitutes the single most important factor to define a market as a market in itself.

## References

- CEC Commission of the European Communities (1997). Commission notice on the definition of the relevant market for the purposes of community competition law. *Official Journal*, OJC 372.
- Dutch Media Authority. (2002). *A view on media concentration: Concentration and diversity of the Dutch media in 2001*. Hilversum: Dutch Media Authority; also available on [www.cvdm.nl](http://www.cvdm.nl)



- Dutch Media Authority (2003). *Mediaconcentratie in beeld: Concentratie en pluriformiteit van de Nederlandse media 2002* [A focus on media concentration: concentration and pluriformity in the Dutch media 2002]. Hilversum: Dutch Media Authority.
- Cuilenburg, J. van (2005). In E. de Bens, C. Hamelink, K. Jakubowicz, K. Nordenstreng, J. van Cuilenburg, and R. van der Wurff (Eds.), *Media between culture and commerce*. Bristol: Intellect Books.
- Cuilenburg, J. J. van and McQuail, D. (2003). Media policy paradigm shifts: In search of a new communications policy paradigm. *European Journal of Communication*, 18(2), 181–207.
- European Audiovisual Observatory. (Ed.). (2001). *Television and media concentration: Regulatory models on the national and the European level (IRIS Special)*. Strasbourg: European Audiovisual Observatory.
- European Audiovisual Observatory. (2002). *Media supervision on the threshold of the 21<sup>st</sup> century: What are the requirements of broadcasting, telecommunications and concentration regulation?* Strasbourg: European Audiovisual Observatory.
- Framework Directive (2002). Framework Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services. *Official Journal of the European Communities*.
- McQuail, D. (1992). *Media performance*. London: Sage.
- Napoli, P. M. (1999). Deconstructing the diversity principle. *Journal of Communication*, 49(4), 7–34.
- Oftel (2002). *Oftel's market review guidelines: Criteria for the assessment of significant market power*. London: Author.
- Sánchez-Tabernero, A. and Carvajal, M. (2002). *Media concentration in the European market: New trends and challenges*. Pamplona: Universidad de Navarra.

## **‘Open diversity’ statistics: An illusion of ‘scientific thoroughness’?**

PAUL HENDRIKS VETTEHEN

In western societies, diversity in television content has become a key-stone of media policy (McQuail, 1992). However, the concept of diversity itself can be looked at from different angles. Notably, Hellman (2001) distinguishes between the ‘marketplace model’ of diversity and the ‘public policy model’ of diversity.

In the marketplace model, program diversity is considered a means to satisfy the diversity in audience demands, treating each member equally. The economical norm of meeting the public’s demand for certain program categories is known as the performance criterion. Van der Wurff, van Cuilenburg, and Keune (2000: 121) call this criterion ‘reflective diversity’ (RD), reflecting the degree of balance between supply and demand of program categories. If supply meets demand, the marketplace performs optimally.

In the public policy model, which according to Hellman (2001: 183) “typically guides European public service broadcasters”, program diversity is seen as a means to ensure that different ideas, preferences, and opinions in society are equally represented in the media, regardless of the degree to which these are supported by the public (Van der Wurff et al., 2000: 121). To broadcasters, supplying a wide range of choice between program categories can thus be considered a performance criterion. Van der Wurff et al. (2004) call this criterion ‘open diversity’. Several statistics are used as measures of ‘open diversity’ (OD). However, in this commentary it is argued that these statistics suffer from similar interpretation problems, due to the assumptions that underlie the formulas used.

### The problem with ‘open diversity’ statistics

As stated earlier, supplying a wide range of choice between program categories is generally considered a criterion of ‘open diversity’. This is a difficult criterion, because it leaves some aspects in need of explication. For instance, what does ‘a wide range’ mean? Which ‘program categories’ are meant? And how much should each program category be represented? On a more general level, Van der Wurff et al. (2000: 122) refer to these problems by stating that measuring ‘open diversity’ is ultimately a normative activity, where “one professional or political elite or another prescribes what perspectives should be taken into account and what not”.

In spite of these problems, quantitative measures of ‘open diversity’ have been applied, notably the Open Diversity statistic (Van der Wurff et al., 2000; Van der Wurff, 2004), and the Relative Entropy Index (Hellman, 2001; Van der Wurff et al., 2000). Both of these measures share the assumption that equally important content categories should be broadcast in equal proportions. Optimal ‘open diversity’ is reached if a given number of categories are broadcast in equal proportions. And, more implicitly but also importantly, both share the assumption that the greater the open diversity in media content, the more desirable the situation is.

One may wonder, however, whether these assumptions are tenable. For instance, consider Table 1, which features a fictitious program supply by a given broadcaster at  $T_0$  and  $T_1$ . According to the Open Diversity statistic  $OD^1$ , the supply at  $T_1$  provides optimal diversity ( $OD = 1.0$ ) and should therefore be considered as the most desirable. However, one could question whether the assumption that the program categories are of equal importance is defensible. It is, for instance, questionable

Table 1. *Program supply by a fictitious broadcaster at  $T_0$  and  $T_1$ .*

Program categories	Program supply at $T_0$	Program supply at $T_1$
Information / Education	40 %	20 %
Fiction	20 %	20 %
Entertainment	20 %	20 %
Sports	10 %	20 %
Children's programs	10 %	20 %
	OD = 0.8	OD = 1.0

whether the category ‘sports’ is as important as the category ‘information/education’. Moreover, in the supply at  $T_0$ , program categories that may be considered as more comprehensive (information/education, fiction, entertainment) account for a relatively greater proportion of broadcasting time than categories that may be considered less comprehensive (sports, children’s programs), especially if a category generally is considered as more relevant to democratic ideals (information/education). From this more ‘intuitive’ understanding of the distributions, the supply at  $T_0$  might even be considered more desirable despite its less ‘open diversity’ (OD = 0.8).

This example serves as an elucidation of the thesis that quantitative analyses of ‘open diversity’ are worth exactly as much (or as little) as the assumptions underlying the ‘open diversity’ statistics. Of course it can be deducted from Table 1 that the program supply has become more diverse between  $T_0$  and  $T_1$  in terms of an OD statistic that is applied to the five present program categories. However, the interpretation of this observation in terms of desirability (i. e., that the program supply at  $T_1$  is more desirable than at  $T_0$ ) directly depends on the belief one has in the assumption that the five program categories should ideally share an equal proportion of broadcasting time<sup>2</sup>. At least in this example, the assumption seems questionable.

**Discussion**

We already quoted Van der Wurff et al.’s (2000) remark that measuring ‘open diversity’ is ultimately a normative activity. However, as long as the underlying norms cannot be regarded as largely agreed upon, analyses of ‘open diversity’ in terms of ‘open diversity’ statistics will be carried out based on categorizations that are not agreed upon and that consequently make any evaluation of the statistics a merely mechanistic and tricky business.

The fact that the program categories in Table 1 were taken from a report by the authority that controls compliance with the Dutch Media

Law (Dutch Media Authority, 2003) stresses the importance of the subject. Quantitative analyses of 'open diversity' in such reports, notably regarding differences in 'open diversity' scores between broadcasters, or differences in 'open diversity' scores of a given broadcaster at different measurement moments, may provide policy-makers with an illusion of 'scientific thoroughness', one that is likely to become the basis of unwarranted evaluative inferences about the quality of television or radio programming.

At least two alternative solutions to this situation seem feasible. However, both solutions require that policy-makers spell out the performance criteria that are sensible for researchers to use as a yardstick for performance statistics. In one alternative, one could develop a number of program categories that are assumed to be of equal importance and consequently should be given equal broadcasting time. Subsequently, this standard categorization should be applied in all policy studies that are aimed at quantifying 'open diversity' in media content by means of the current statistics. In the second alternative, the relative importance of each program category could be explicated. Media laws could serve as a basis to set 'target proportions' of broadcasting time for each program category. And ultimately, deviations from these target proportions could be incorporated into a complete new measure of 'open diversity'.

## Notes

1. The 'Open Diversity' statistic is computed as follows (cf. Van der Wurff, 2004).  

$$\text{Open Diversity} = 1 - \sum (b_i - 1/n)/2$$
 with:  $b_i$  = proportion of broadcasting time devoted to program type  $i$   
 $n$  = number of program categories  
 Range:  $1/n$  (minimal open diversity) – 1 (optimal open diversity)
2. For this reason, scientific studies on 'open diversity' often explicate the researcher's belief that the program categories should be given equal proportions of broadcasting time (cf. Van der Wurff, 2004: 140; Van der Wurff et al., 2000: 141, 157).

## References

- Dutch Media Authority (2003). *Mediaconcentratie in beeld: Concentratie en pluriformiteit van de Nederlandse media 2002* [A focus on media concentration: concentration and pluriformity in the Dutch media 2002]. Hilversum: Dutch Media Authority.
- Hellman, H. (2001). Diversity, an end in itself? Developing a multi-measure methodology of television program variety studies. *European Journal of Communication*, 16(2), 181–208.
- McQuail, D. (1992). *Media performance. Mass communication and the public interest*. London: Sage.
- Wurff, R. van der (2004). Program choices of multichannel broadcasters and diversity of program supply in The Netherlands. *Journal of Broadcasting and Electronic Media*, 48(1), 134–150.

Wurff, R. van der, Cuilenburg, J. van, and Keune, G. (2000). Competition, media innovation and diversity broadcasting. In J. van Cuilenburg and R. van der Wurff (Eds.), *Media and open societies. Cultural, economic and policy foundations for media openness and diversity in east and west* (pp. 119–157). Spinhuis: Amsterdam.

## Measuring diversity and level of aggregation

MAURICE VERGEER

Over a period of three decades, a number of studies have focused on diversity in the media. Diversity is viewed as an important indicator for the performance of broadcasting systems and channels in a democratic society. A number of diversity studies are concerned with the theoretical and methodological side of media diversity. McQuail (1992; see also Napoli, 1999) distinguishes between different forms of diversity ordered along the sequence of production to consumption, namely source diversity, channel diversity, diversity of content-as-sent, diversity of content-as-received, and audience diversity. Furthermore, diversity can be measured in terms of different dimensions, such as program type, social/cultural diversity, diversity of opinion, etc. (cf. McQuail, 1992; Van der Wurff, 2004a, 2004b). A number of studies are dedicated to the empirical problems associated with the assessment of the degree of diversity. Van der Wurff and van Cuilenburg (2001), Hellman (2001), and McDonald and Dimmick (2003) review a series of diversity measures in terms of their appropriateness. This has led to a number of formulas, each measuring different aspects of diversity for specific objectives.

Diversity is an aggregate measure. To determine the degree of diversity one needs to aggregate data to a specific level of objects of analysis. Depending on the type of diversity one has to decide whether to aggregate within separate channels, the broadcast organizations, public versus commercial broadcasters, or the broadcasting system as a whole. This approach has resulted in measures such open diversity and channel diversity (Van der Wurff and van Cuilenburg, 2001). However, another dimension of aggregation that has been largely ignored is within what time slot should be aggregated. Empirical research normally determines diversity within 3-month periods (Van der Wurff, 2004a) or a year at a time (Hellman, 2001). However, the range of possible time slots is much wider, ranging from years, 6-months periods, 3-months periods, seasons, and months down to days, hours, and even minutes. The question is, what time slots are best for measuring diversity?

There are a few arguments why diversity may vary within these different categories of aggregation. For example, in summer months, people spend more time outdoors, which results in a smaller audience. This can lead to a shift in program strategies and a different program supply from the winter months. Some broadcasters reserve specific weekdays for specific theme nights (e.g., women's night, science fiction evening, sports evening). Specific months may be characterized by a high percentage of sports broadcasting because of special events such as the Olympics or international soccer tournaments. The broadcasting time also influences the types of programs that are aired. For example, programs at the beginning of the evening (18:00–19:00 hours) are often targeted at children. The outcomes of program strategies such as these could have consequences for the program supply that is actually broadcast and therefore for the degree of diversity.

In this context, the distinction between vertical diversity and horizontal diversity is relevant (Litman, 1979). Vertical diversity measures the number of program types offered by a (set of) channel(s) across the entire schedule. Horizontal diversity focuses on the amount of program choice the viewer enjoys at a given moment. It implies that a viewer tends to choose a program when watching television based on the programs available there and then, and not based on programs offered in the future, that might be of interest to the viewer too. Ignoring the diversity at that point in time does not do justice to one of the objectives of diversity issues, namely supplying the viewer with a rich program choice at a particular point in time. While vertical diversity is assessed extensively, horizontal diversity is underrepresented in research.

The following research questions focus on the degree of diversity:

1. To what extent is the Dutch program supply diverse?
2. To what extent is there variation in the diversity of Dutch program supply?

In order to assess whether it is justifiable to measure diversity at a higher aggregation level, we first must determine to what degree the proportional broadcasting time of different program types differ within levels such as months, weekdays, and time of broadcasting. The third research question is:

3. To what extent does the proportional broadcasting time of program types differ on a monthly, weekly, and daily level, as well as across the time of broadcasting?

If there are no differences between months in terms of program supply, one can ignore the individual months and measure program supply and diversity at a higher aggregate level (e. g., years).

4. To what extent does diversity differ within levels of months, week-days, and time of broadcasting?

### **Data and measurements**

The data were made available by the *Stichting KijkOnderzoek*, a Dutch foundation responsible for gathering data on program output and audience research. The data refer to 2003; more specifically, they only contain data referring to the time period between 6:00 pm and midnight. Moreover, the data concerns the nine general channels predominantly aimed at the Dutch population: three public service channels supplied by *De Publieke Omroep* and six commercially-funded channels supplied by RTL Nederland and SBS Broadcasting BV.

### *Dependent variables*

Diversity is measured in terms of program type. Napoli (1999) and Van der Wurff (2004a) argue that program type is an adequate category for assessing diversity, since policy-makers refer to this dimension as an important policy indicator for the performance of the broadcasting system. Also, broadcasters use program types as an important choice when developing program strategies. The program types in this study are the following: entertainment, fiction, news and education, children's programs, music, sports, and other programs. Open diversity is calculated as follows (Van der Wurff, 2004a):

$$\text{Open Diversity (OD)} = 1 - \sum (b_i - 1/n)/2$$

where  $b_i$  = proportion broadcasting time devoted to program type  $i$   
and  $n$  = number of program types

To answer research questions 1 and 2, open diversity is determined on different (combinations of) aggregation levels, namely month, weekday, and/or hour. In order to answer research question 3 and 4, proportions of program types and open diversity were determined for each hour on a particular weekday in a specific month, resulting in 504 measurements (i.e., 12 months \* 7 weekdays \* 6 hours) of proportions of program types and open diversity.

### *Independent variables*

The measurements of proportions of program types and open diversity ( $n = 504$ ) were classified based on whether they refer to a particular hour on a particular weekday in a particular month, resulting in three variables: month, weekday, and time of broadcasting. By using these variables one not only assesses vertical diversity (months and weekdays), but also horizontal diversity (time of broadcasting). The one-hour time slots are perceived to be small enough to represent the context in which viewers make meaningful choices for specific television programs.

### *Analysis*

To test for differences between months, weekdays, and time of broadcasting in terms of proportions of program types and the degree in diversity, multiple regression analysis with dummy variables was applied (Hardy, 1993). This approach allowed for the performance of regression analysis with nominal variables, similar to analysis of variance.

### *Results*

Research question 1 asks to what extent the Dutch program supply is diverse. In Table 1, open diversity is measured at different levels of aggregation. It demonstrates that, irrespective of (combination of) level(s) of aggregation, the average degree of open diversity is nearly identical ( $OD \approx .60$ ). Classifying open diversity as low or high is in this case difficult, because there is no point of reference. However, Table 1 shows that an increase in the level of aggregation is coupled to a decrease in the varia-

Table 1. *Descriptive measures of open diversity at different aggregation levels.*

	Level of aggregation						
	Low				High		
	weekday hour month	weekday month	hour month	weekday hour	month	weekday	hour
Mean	.59	.60	.60	.60	.60	.60	.60
Standard deviation	.06	.04	.03	.04	.02	.03	.02
Minimum	.45	.52	.53	.52	.56	.57	.58
Maximum	.76	.70	.67	.70	.63	.67	.63
N	504	84	72	42	12	7	5



tion in open diversity (research question 2). This is illustrated by the standard deviation, the minimums and maximums. Open diversity at the lowest level (month by hour by weekday) ranges from .45 to .76, while at the highest level (hour) it only ranges from .58 to .63. Although the standard deviation of diversity at the lowest level is not very high, it is larger than at the higher levels of aggregation. Apparently, when measuring open diversity in a more detailed manner, the variation in open diversity will be larger.

I will now discuss research question 3. Earlier it was argued that, in general, aggregating to a higher level is only allowed when differences at a lower level are absent. Therefore I determined whether there are differences between proportions of program types per months, weekdays, and hours. Table 2 shows the results of multiple regression analyses. The first seven models predict the proportion of supply of program types in specific months, weekdays, and hours. For each model, the intercept indicates the average proportion per hour spent on a program type in the reference categories (December, Sunday and 8:00 pm–9:00 pm). The prediction variables (i.e., dummy variables) indicate deviations from the reference category. For example, on average, 15% per hour is spent on entertainment, while in July this is 5% less than in December, on Mondays on average 4% less than on Sundays, and from 11:00 pm to midnight 4% less than between 8:00 pm and 9:00 pm.

As can be seen, there are statistically significant differences between months, weekdays, and time of broadcasting for all program types. For example, entertainment is mainly broadcast between 7:00 pm and 9:00 pm; fiction is broadcast more in the summer months and in January and February, as well as between 9:00 pm and 10:00 pm; news and education is mainly aired on weekdays and between 7:00 pm and 9:00 pm; children's programs are broadcast between 6:00 pm and 7:00 pm; music is aired on Sundays and Mondays; sports programs are broadcast mainly in the weekend and on Mondays. Overlooking these results, the answer to research question 3 is that there are significant differences at all levels. This means that proportion of program types should be measured on an hourly basis. Ignoring these differences within levels could lead to false conclusions or at least to crude generalizations about the program supply on Dutch television.

Considering the results for program type, open diversity is to be analyzed at the same level, namely on an hourly basis. The last model, concerning research question 4, presents the results of the regression analysis for open diversity. Although many coefficients are statistically significant, September and December clearly stand out, having the highest degrees of open diversity compared to other months. In September and December, entertainment and fiction are supplied more proportionally.

Table 2. Multiple regression analyses of point in time of broadcasting on proportions of program types and open diversity (unstandardized coefficients).

	(1) entertain- ment	(2) fiction	(3) news and education	(4) children's programs	(5) music	(6) other	(7) sports	(8) open diversity <sup>1</sup>
Intercept	<b>.15</b>	<b>.33</b>	<b>.25</b>	<b>.02</b>	<b>.04</b>	<b>.16</b>	<b>.06</b>	<b>.66</b>
<i>Month</i>								
January	<b>-.03</b>	<b>.04</b>	.00	<b>-.01</b>	<b>-.01</b>	<b>-.02</b>	<b>.03</b>	<b>-.02</b>
February	<b>-.03</b>	<b>.04</b>	.00	<b>.00</b>	<b>-.01</b>	<b>-.01</b>	<b>.01</b>	<b>-.03</b>
March	<b>-.02</b>	.02	.02	.00	<b>-.02</b>	<b>-.01</b>	.00	<b>-.04</b>
April	<b>-.02</b>	.03	.01	<b>-.01</b>	<b>-.02</b>	.00	.01	<b>-.05</b>
May	<b>-.03</b>	.02	.00	<b>-.01</b>	<b>-.01</b>	.01	<b>.02</b>	<b>-.03</b>
June	<b>-.05</b>	<b>.05</b>	<b>-.01</b>	<b>-.01</b>	<b>-.01</b>	<b>.02</b>	.00	<b>-.06</b>
July	<b>-.05</b>	<b>.04</b>	<b>-.02</b>	.00	<b>-.02</b>	<b>.01</b>	<b>.02</b>	<b>-.04</b>
August	<b>-.04</b>	<b>.05</b>	<b>-.02</b>	<b>.00</b>	<b>-.01</b>	<b>.02</b>	.01	<b>-.04</b>
September	<b>-.02</b>	<b>-.01</b>	.00	.00	<b>-.02</b>	<b>.02</b>	<b>.03</b>	<b>-.02</b>
October	<b>-.01</b>	<b>-.01</b>	.02	<b>.00</b>	<b>-.02</b>	.01	.01	<b>-.02</b>
November	<b>-.01</b>	<b>-.01</b>	.02	<b>-.01</b>	<b>-.01</b>	.01	.01	<b>-.02</b>
December	ref	ref	ref	ref	ref	ref	ref	ref
<i>Weekday</i>								
Monday	<b>-.04</b>	<b>-.09</b>	<b>.11</b>	<b>-.01</b>	.00	<b>.02</b>	.00	<b>-.02</b>
Tuesday	<b>-.04</b>	<b>-.05</b>	<b>.12</b>	<b>-.01</b>	<b>-.02</b>	<b>.02</b>	<b>-.03</b>	<b>-.07</b>
Wednesday	<b>-.01</b>	<b>-.05</b>	<b>.09</b>	<b>-.01</b>	<b>-.02</b>	<b>.03</b>	<b>-.03</b>	<b>-.05</b>
Thursday	<b>-.05</b>	.00	<b>.07</b>	<b>-.01</b>	<b>-.02</b>	<b>.02</b>	<b>-.02</b>	<b>-.06</b>
Friday	<b>-.03</b>	<b>-.02</b>	<b>.10</b>	<b>-.01</b>	<b>-.02</b>	<b>.02</b>	<b>-.04</b>	<b>-.07</b>
Saturday	<b>-.02</b>	.01	<b>.03</b>	<b>-.01</b>	<b>-.01</b>	<b>.01</b>	<b>-.01</b>	<b>-.03</b>
Sunday	ref	ref	ref	ref	ref	ref	ref	ref
<i>Time of broadcasting</i>								
6:00 pm–	<b>-.05</b>	<b>.03</b>	<b>-.08</b>	<b>.10</b>	.00	<b>.02</b>	<b>-.01</b>	<b>.04</b>
7:00 pm								
7:00 pm–	.02	<b>-.04</b>	<b>-.02</b>	<b>.01</b>	.00	<b>.05</b>	<b>-.01</b>	<b>.02</b>
8:00 pm								
8:00 pm–	ref	ref	ref	ref	ref	ref	ref	ref
9:00 pm								
9:00 pm–	<b>.02</b>	<b>.12</b>	<b>-.10</b>	.00	.00	<b>-.03</b>	.00	<b>-.01</b>
10:00 pm								
10:00 pm–	<b>-.02</b>	<b>-.06</b>	.02	.00	.00	<b>.06</b>	.01	<b>-.01</b>
11:00 pm								
11:00 pm–	<b>-.04</b>	<b>-.02</b>	.02	<b>.00</b>	.00	<b>.01</b>	<b>.03</b>	<b>-.01</b>
midnight								
% explained variance	<b>29</b>	<b>40</b>	<b>41</b>	<b>95</b>	<b>17</b>	<b>51</b>	<b>33</b>	<b>36</b>

Coefficients printed bold are statistically significant at 5%, two-sided, n = 504

Possible explanations are the start of the new television season in September and the holidays in December. Sunday has the highest degree of diversity of all weekdays, mainly due to the relative absence of news and education compared to the other days. Between 6:00 pm and 8:00 pm the program supply shows a higher degree of diversity than during the other hours of broadcasting, mainly due to the relatively large proportion of children's programs.

### **Conclusion and discussion**

This study set out to determine the degree of open diversity on Dutch television in 2003. Furthermore, it posed the question at what level of aggregation diversity is to be analyzed. Although the level of aggregation does not affect the average degree of open diversity, it reveals that open diversity varies between months, weekdays and time of broadcasting simultaneously. Horizontal diversity was the largest in September and December and on Sundays, while horizontal diversity was largest between 6:00 pm and 8:00 pm.

Although the reported differences in open diversity are statistically significant, only a few are substantial. There are some explanations why this is the case. First, the chosen time slot was 6:00 pm–midnight as an approximation of prime time programming. This time slot is relatively homogeneous. When daytime television was included, more substantial differences were expected. Similarly, I analyzed a single year where no major television market changes occurred. Also, there were no large media events such as the summer or winter Olympics or international soccer tournaments.

A methodological advance of the presented approach lies in the simultaneous analysis of vertical diversity and horizontal diversity. Moreover, vertical diversity is analyzed at several levels (months and weekdays). Furthermore, the presented approach can be applied to other measures of diversity as well, such as reflective diversity and channel distinction.

Thus far, diversity is mainly used in descriptive studies (Napoli, 1999), which is adequate for assessing the performance of broadcasting systems and monitoring changes over time. However, an explanatory approach such as the one undertaken by Van der Wurff (2004a) should provide more insight in the process of how the degree of diversity changes. A few studies have adopted this approach and searched for external factors such as degree of competition between channels and companies or new market entries (Hellman, 2001; Van der Wurff, 2004a, 2004b). This approach shows that differences in program supply resulting from program strategies explain additional variation in the degree of diversity. It im-

proves insight in the process of program strategies and the effect it has on the degree of diversity.

Extending the analysis to include more years, applying the analytical approach presented here or with time series analysis, one could uncover short term, midterm, and long term processes and effects. Especially when new companies enter the television market or new channels are introduced, changes in program strategies may have short term effects on program supply and diversity, something which would not be visible on a higher level of aggregation.

## Note

1. It is important to keep in mind that differences between levels and categories in proportions of program types are not always reflected in differences in open diversity. Diversity on a higher level (e. g., year) is by definition equal to diversity on a lower level (e. g., months) only when proportions of specific program types on both levels are equal. However, when proportions of program types differ on both levels the degree of diversity may differ. Measures of diversity merely take into account the spread of categories: A 70%–30% distribution results in the same degree of open diversity as a 30%–70% distribution.

## References

- Hardy, M. A. (1993). *Regression with dummy variables*. London: Sage.
- Hellman, H. (2001). Diversity – An end in itself? Developing a multi-measure methodology of television program variety studies. *European Journal of Communication*, 16(2), 181–208.
- Litman, B. R. (1979). The television networks, competition and program diversity. *Journal of Broadcasting*, 23, 393–409.
- McDonald, D. G. and Dimmick, J. (2003). The conceptualization and measurement of diversity. *Communication Research*, 30(1), 60–79.
- McQuail, D. (1992). *Media performance. Mass communication and the public interest*. London: Sage.
- Napoli, P. M. (1999). Deconstructing the diversity principle. *Journal of Communication*, 49(4), 7–34.
- Van der Wurff, R. (2004a). Program choices of multichannel broadcasters and diversity of program supply in The Netherlands. *Journal of Broadcasting and Electronic Media*, 48(1), 134–150.
- Van der Wurff, R. (2004b). Supplying and viewing diversity. The role of competition and viewer choice in Dutch broadcasting. *European Journal of Communication*, 19(2), 215–237.
- Van der Wurff, R. and Cuilenburg, J. van (2001). Impact of moderate and ruinous competition on diversity: The Dutch television market. *Journal of Media Economics*, 14(4), 213–219.

## **Media diversity from a user's perspective in The Netherlands, 1975–2000<sup>1</sup>**

FRANK HUYSMANS and JOS DE HAAN

### **Monitoring diversity in media use**

Media diversity as a normative requirement for media systems in democratic societies (cf. McQuail, 1992: 141 ff.) is usually treated as a supply-side phenomenon. As long as citizens are able to find several perspectives on current issues and diverging opinions in a variety of sources, one of the key prerequisites of a free and democratic society is met. Regulating the supply side is as much as governments can do to ensure media diversity. The demand side, i.e., using what is on offer in the media, cannot be controlled by regulating bodies. It goes without saying that these bodies should not compel citizens to make use of a rich and varied media menu in their leisure time. For the well-functioning of democracy, nevertheless, what counts most is how people actually use the media. A varied media supply side is meaningless unless citizens actually use multiple sources of information and opinion to become well-informed enough to make rational choices in the voting booth<sup>2</sup>.

With the advent of commercial channels on radio and television, as well as numerous Internet sources, the media landscape in most European countries has, without a doubt, become more 'diverse' (in many of the meanings of that term discussed by McQuail, 1992) in recent decades<sup>3</sup>. The balance has shifted, however, from print media to audiovisual and digital media, as the number of newspaper titles in various countries is gradually declining. All things together, the number of options to choose from has increased considerably. The question that comes to the fore is whether this increasing number of options is reflected in media use as well. Are citizens combining more information sources now that they have more sources at their disposal? Or do they trade in 'traditional' print sources for 'modern' Internet ones, thereby maintaining the same level of diversity as before? Using data from the Dutch Time Use Surveys (TUS) which have been held every five years since 1975, this question will be answered for the Dutch population aged 12 and over<sup>4</sup>. It is important to keep in mind that the cited figures concern media use as a main activity only (as opposed to secondary activity alongside another main activity, such as listening to the radio when driving) and as a free time activity only (so that reading a book for educational purposes or using the Internet at work is not included).

### Trends in diversity in media use in The Netherlands

As much as the amount of available information has skyrocketed due to the advent of commercial broadcast channels and numerous websites, media access in the average Dutch household has changed. In the mid-1970s, two Dutch public TV channels, two Belgian and three German public TV channels were available for those who lived not too far from the respective borders, and that was about it. On the radio, one could listen to more channels from further away (on short- and long-wave bands), but the quality of most signals was relatively poor. Cable networks, which proliferated throughout the 1980s, brought more and better quality radio and TV channels to the home. As for printed media, the number of newspaper subscriptions per 100 households declined slowly during the 1980s and 1990s. This trend was somewhat attenuated by passing the paper on from one household to another. The sale of books has fluctuated with the economic tide, but the general trend is also one of decline. The number of books and other media (videos, CDs etc.) borrowed from libraries has also declined since the beginning of the 1980s, despite an increase – both absolutely and relatively – in the number of registered users of libraries up to the middle-1990s. Reliable sale and subscription figures are not available for magazines.

Not only in terms of numbers has the household media ‘equipment’ changed. Playing and recording devices such as record players, cassette decks, and VCRs first improved in quality and subsequently began to be traded in for their digital counterparts. Of these, CDs, DVDs and hard disk recorders have proven to be the ‘killer’ applications, whereas digital audio tape (DAT) and minidisc players/recorders never reached a critical mass. The advent of the personal computer, slowly growing into a multimedia application with access to a worldwide network of diverse content, has further reinforced this trend.

Having these indicators for household media access in mind, it is all the more surprising to ascertain that in the 1975–2000 period, the level of total media *use* – in terms of time devoted to it – has remained constant at a level of 18–19 hours per week. Neither did the total free time budget change very much; it fluctuated around 47–49 hours per week, with a 2.5 hour per week drop between 1995 and 2000 due to the economic boom at the end of the millennium<sup>5</sup>. This means that in relative terms more than 40 percent of total free time is devoted to media use, and that this percentage has remained constant during the 1980s and 1990s (with a small increase towards the end of the period discussed here). One has to bear in mind that media use is not the only option to fill leisure time that has shown ‘modernization’. The whole leisure market has professionalized in recent decades, thereby enhancing the compe-

Table 1. *Diversity in media use and communication behavior: Using various media at least once during a whole week, Dutch population of 12 years and over, 1990–2000.*

	number of options			actually used		
	1990	1995	2000	1990	1995	2000
print media <sup>a</sup>	4	4	4	2,2	2,1	1,8
radio/sound systems <sup>b</sup>	3	4	4	0,7	0,5	0,4
TV/VCR <sup>c</sup>	6	7	7	2,6	2,5	2,7
PC/Internet <sup>d</sup>	1	1	2	0,1	0,2	0,6
total media	14	16	17	5,6	5,4	5,6
ratio media (used/options)				0,40	0,34	0,33

- a Books; newspapers; magazines; other print media.  
b Nationwide public channels; other channels; audio; as of 1995 also nationwide commercial channels.  
c Nationwide public channels; nationwide commercial channels; cable newspaper; tel-  
etext; other channels; VCR; as of 1995 also regional/local channels.  
d Personal computer (off line); as of 2000 also Internet use (on line).  
Source: Social and Cultural Planning office (Time Use Survey 1990–2000).

tition between media and non-media leisure activities for the attention and leisure time of ‘experience consumers’ (see Mommaas, 2000: 114).

As already stated, in this situation of ‘old’ media slowly losing and ‘new’ media rapidly gaining popularity, the diversity of content ‘as sent’ has grown. Within the steady media time budget, in the 1975–2000 period the diversity in use has also risen somewhat (Huysmans, De Haan, and Van den Broek, 2004: 168–171). But if the scope is restricted to the 1990s, the decade in which most change took place, it can be seen that despite the growth of options in leisure time activities that people had, their use has remained as diverse (or non-diverse) as it was at the beginning of the 1990s (see Table 1).

The diversity in use of the ‘classical’ print and audio media has been declining (as has the time devoted to them). This is compensated by the increasing diversity in use of ICTs (PC/Internet). However, in a relative sense (the ‘ratio’ line in Table 1) diversity in the use of all the distinguished media options has declined in the last decade. In 1990, the Dutch population used on average 2 out of 5 options. Ten years later, this figure had dropped to 2 out of 6.

Further analyses (Huysmans et al., 2004: 186 ff.) show that the degree of diversity in media use can be statistically explained by a number of social-structural factors. In a multivariate regression analysis, a low level of media use diversity is shown to be determined by age (younger population segments), gender (women), level of education (lower), labor market position (jobless), income (low), and household size (large), with each

of these factors exerting a separate influence on media use diversity. If several 'risk factors' are combined, considerable differences can result. For a job-seeking person with a low income, and a low level of education, the model predicts a level of diversity that is half the size of that of a person with paid work, a high level of education, and a high income. Other analyses also show a connection between the degree of societal integration and diversity of media use. With the necessary precautions, it can be hypothesized that being jobless, which is often the result of a lower educational level and results in a lower income, is accompanied by a withdrawal from society. Part of this withdrawal reveals itself in losing interest in societal affairs, which are brought home by the mass media and the Internet. A supply side phenomenon like the advent of the Internet can only, if at all, be of marginal importance to solving this kind of problem.

## Conclusion

The growth in diversity of the media supply side has not resulted in an increase in diversity in media use, at least not in the Dutch case during the 1990s. Possible explanations for this, at first sight astonishing, finding can be found, first, in external circumstances. The amount of leisure amidst daily duties has remained constant in the period 1975–1995 and dropped slightly thereafter. Within the leisure time budget competition has also been fierce. Recent decades have witnessed an expanding leisure market with lots of attractions to keep people away from using media.

Internal factors may provide another part of the explanation. It is not unthinkable that citizens feel an urge to concentrate their attention on an orderly package of information sources in today's complex world. Differences in diversity of media use between better and less well-integrated citizens as the ones reported here might just reflect people's varying capacities to cognitively and emotionally deal with the modern world's complexity. If this is true, there is no need for policy initiatives to urge people to live on a more varied media menu. On the other hand, the connection between societal integration and variety in media use, which is rather firmly indicated by the Dutch data, warrants some attentiveness on the side of policy-makers. Today's information society should promote information literacy as a tool for citizens, especially for those in deprived circumstances, to keep up with the pace of modern life.

## Notes

1. The findings and analyses reported in this contribution are based on a recent report, *Achter de schermen* (Huysmans, De Haan, and Van den Broek, 2004) which was published by the Social and Cultural Planning office (SCP) of the Dutch govern-



ment. The report, including an extensive English summary, can be downloaded from <http://www.socialestaat.nl/scp/publicaties/boeken/9037701299/AchterDeSchermen.pdf>

2. For this purpose, each single individual should actually use various sources. Less demanding notions of diversity in use only require that in the society as a whole various sources are used by various social groups.
3. Cf. European Audiovisual Observatory (2003) for audiovisual and new media in the European context.
4. See [www.tijdsbesteding.nl](http://www.tijdsbesteding.nl) for more detailed information about this series of time use surveys, also in English.
5. The economic growth enabled many people without a job to find work, which cut down the average free time budget of the population. A large portion of the new jobs available were for part-time jobs, and a large share of these were occupied by women (see Van den Broek and Breedveld, 2004).

## References

- European Audiovisual Observatory (2003). *Yearbook 2003 (5 volumes)*. Strasbourg: European Audiovisual Observatory.
- Huysmans, F., Haan, J. de and Broek, A. van den (2004). *Achter de schermen. Een kwart eeuw lezen, luisteren, kijken en internetten* [Behind the scenes/screens. A quarter century of reading, listening, viewing and using the Internet]. The Hague: Social and Cultural Planning office (SCP).
- McQuail, D. (1992). *Media performance. Mass communication and the public interest*. London: Sage.
- Mommaas, H. (2000). *De vrijetijdsindustrie in stad en land. Een studie naar de markt van belevenissen* [The leisure industry. A study of the experience market]. The Hague: Sdu Uitgevers.
- Van den Broek, A. and Breedveld, K. (Eds.). (2004). *Trends in time. The use and organisation of time in The Netherlands, 1975–2000*. The Hague: Social and Cultural Planning office (SCP).